

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: IMPELLIZZERI, Frederic

SERIAL NO.: 10/530,683

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EXAMINER: Hoffman, M. C.

TITLE: SELF-LOCKING OSTEOSYNTHESIS DEVICE

Supplemental Amendment D: CLAIM AMENDMENTS

Claims 1 - 18 (canceled).

19. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder within said opening, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a tapered hole having ~~a smooth an~~ inner wall ~~and a diameter less than the diameter of the opening~~, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening and having a uniform width greater than said plate; and

a plurality of bone screws respectively received in said tapered hole of said plurality of inserts, each of said plurality of bone screws having a conical head with an outer conical thread aligned along said conical head for self-tapped threaded engagement with said inner wall of said tapered hole on an outer surface thereof; said biocompatible polymeric material suitable for allowing a self-tapping of said smooth wall of said hole with the thread of said plurality of bone screws, said plurality of bone screws having a said conical head locked in said plurality of inserts when the thread

of the bone screw engages an underlying surface, ~~each head having a conical threading thereon~~; each insert being fixed relative to said plate when a respective bone screw is being angularly received in said tapered hole of said plurality of inserts.

20. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a thermoplastic polymer.

21. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a polyether ether ketone material.

22. (Canceled).

23. (Previously presented) The device of Claim 19, said plate being formed of titanium.

24. (Canceled).

25. (Previously presented) The device of Claim 19, said plurality of inserts being mechanically secured respectively in said plurality of openings.

26. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder extended into each of said plurality of openings, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a tapered hole having a ~~smooth~~ an inner wall ~~and a diameter less than the diameter of the opening~~, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening; and

a plurality of tapping screws threadedly secured respectively in the hole of said

plurality of inserts, said ~~biocompatible polymeric material suitable for allowing a self-tapping of said smooth~~ inner wall of said tapered hole being in self-tapped threaded engagement by the a tapping screw, each of said plurality of tapping screws having a head formed at an end thereof, said head having a conical shape, said head having a conical threading formed thereon, said inner wall having threads determined by conical threading engaging said smooth of each corresponding tapping screw ~~wall of said hole~~, each insert being fixed when a respective tapping screw is being angularly received in said hole of said plurality of inserts.

27. (Canceled).

28. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder extended into each of said plurality of openings, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a hole having ~~a smooth~~ an inner wall and a diameter less than the diameter of the opening, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening and having a generally uniform width greater than said plate; and

a plurality of tapping screws threadedly ~~secured~~ received respectively in the hole of said plurality of inserts, said ~~biocompatible polymeric material suitable for allowing a self-tapping of said smooth~~ inner wall of said hole by the being in self-tapping threaded engagement with a tapping screw, each of said plurality of tapping screws having a head formed at an end thereof, said head having a conical shape, said head having a conical threading formed thereon, said conical

threading engaging said ~~smooth~~ inner wall of said hole to form threads, each insert being planarly fixed within said plate when a respective tapping screw is being angularly received in said hole of said plurality of inserts.